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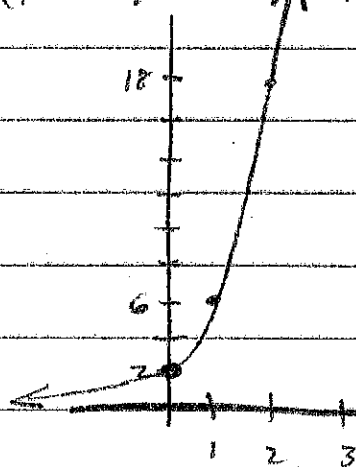
p528

21, 25, 27-29, 33, 35, 39-53, d1

21.

$$y = 2(3)^x$$

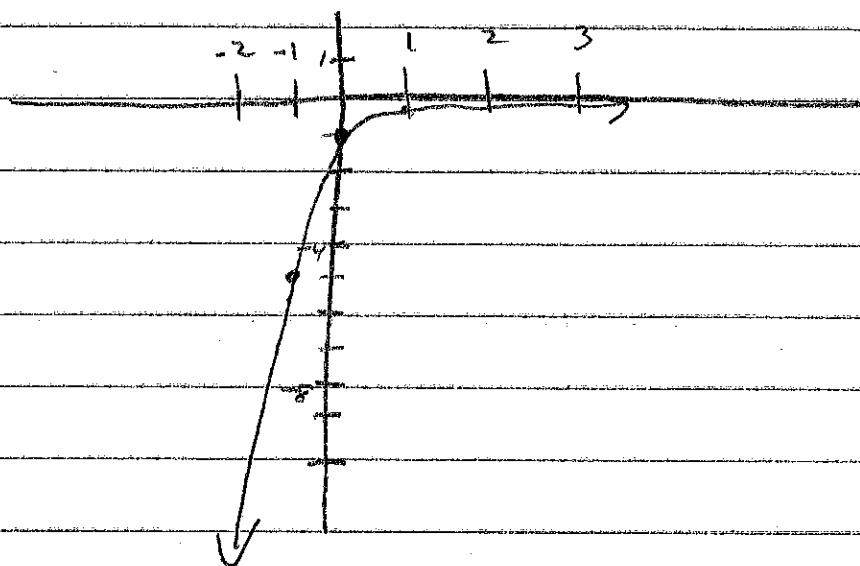
x	y
0	2
1	6
2	18
3	54



25.

$$y = -\left(\frac{1}{5}\right)^x$$

x	y
-2	-25
-1	-5
0	-1
1	$-\frac{1}{5}$
2	$-\frac{1}{25}$
3	$-\frac{1}{125}$

27.  $b = 3.5$  growth28.  $b = 4$  growth29.  $b = \frac{1}{3}$  decay33.  $(0, -2)$   $(-2, -32)$ 

$$y = -2(b)^x$$

$$-32 = -2(b)^{-2}$$

$$(16)^{\frac{1}{2}} = (b^{-2})^{\frac{1}{2}}$$

$$\frac{1}{4} = b$$

$$y = -2\left(\frac{1}{4}\right)^x$$

35.  $(0, 7) (2, 63)$

$$y = a \cdot b^x$$

$$y = 7b^x$$

$$63 = 7b^2$$

$$9 = b^2$$

$$3 = b$$

$$y = 7 \cdot (3)^x$$

39.  $(5^{\sqrt{2}})^{\sqrt{8}} = 5^4 = 625$

41.  $7^{\sqrt{2}} \cdot 7^{3\sqrt{2}} = 7^{4\sqrt{2}}$

43.  $n^2 \cdot n^{\uparrow} = n^{2+\uparrow}$

45.  $3^{n-2} = 27$

$$3^{n-2} = 3^3$$

$$n-2 = 3$$

$$n = 5$$

47.  $5^{n-3} = \frac{1}{25}$

$$5^{n-3} = 5^{-2}$$

$$n-3 = -2$$

$$n = 1$$

49.  $\left(\frac{1}{9}\right)^m = 81^{m+4}$

$$9^{-m} = 9^{2(m+4)}$$

$$-m = 2m+8$$

$$-8 = 3m$$

$$-\frac{8}{3} = m$$

51.  $16^n < 8^{n+1}$

$$2^{4n} < 2^{3(n+1)}$$

$$4n < 3n+3$$

$$n < 3$$

53.  $36^{2p} = 216^{p-1}$

$$(6^2)^{2p} = (6^3)^{p-1}$$

$$4p = 3p-3$$

$$p = -3$$